WHAT IS CLAIMED IS:

1   1. A method for determining differences in at least a part of sets of candidate

2   configuration information, comprising:

3   a) accepting at least a part of a selected one of at least one set of

4   configuration information for a data forwarding device;

5   b) accepting at least a part of a set of candidate configuration information

6   for the data forwarding device; and

7   c) determining differences, if any, between

8   - the at least the part of the set of candidate configuration

9   information for the data forwarding device, and

10   - the at least the part of the selected one of the at least one set of

11   configuration information for the data forwarding device.

1   2. The method of claim 1 wherein the selected one of at least one set of

2   configuration information for a data forwarding device is a most recently

3   committed set of configuration information for the data forwarding device.

1   3. The method of claim 1 wherein the selected one of at least one set of

2   configuration information for a data forwarding device is selected by a user.

1   4. The method of claim 1 wherein the set of candidate configuration information

2   for the data forwarding device includes a plurality of statements,

3   wherein a first statement of the plurality of statements of the set of

4   candidate configuration information for the data forwarding device contains a

5   second statement of the plurality of statements to define at least a part of a

6   hierarchical configuration,

7   wherein the selected one of the at least one set of configuration

8   information for the data forwarding device includes a plurality of statements, and

9   wherein a first statement of the plurality of statements of the

10   selected one of the at least one set of configuration information for the data

11 forwarding device contains a second statement of the plurality of statements to
12 define at least a part of a hierarchical configuration.

1 5. The method of claim 4 wherein the at least the part of the set of candidate
2 configuration information only includes a defined first statement and any of the
3 plurality of statements that are descendants of the defined first statement in the
4 hierarchical configuration, and
5   wherein the at least the part of the selected one of the at least one
6 set of configuration information includes a corresponding first statement and any
7 of the plurality of statements that are descendants of the defined first statement
8 in the hierarchical configuration.

1 6. The method of claim 5 wherein the defined first statement is defined based on
2 a statement of the hierarchical candidate configuration information on which a
3 user is presently working.

1 7. The method of claim 5 wherein the defined first statement is defined by a user
2 input.

1 8. The method of claim 4 wherein the hierarchical configuration information
2 includes at least two categories at a first hierarchical level, and
3   wherein the at least two categories are selected from a group of
4 data forwarding device configuration categories consisting of:
5   A) chassis configuration information;
6   B) class-of-service configuration information;
7   C) firewall configuration information;
8   D) forwarding-options configuration information;
9   E) groups configuration information;
10   F) interfaces configuration information;
11   G) policy-options configuration information;
12   H) protocols configuration information;

13   I) routing-instances configuration information;

14   J) routing-options configuration information;

15   K) network management protocol configuration information; and

16   L) system configuration information.

1   9. The method of claim 4 wherein the hierarchical configuration information

2   includes at least two categories at a given hierarchical level, the method further

3   comprising:

4   d) associating a predetermined permission value with a user that is

5   logged in; and

6   e) determining whether the logged in user is permitted to access one of

7   the at least two categories of configuration information based on the

8   predetermined permission.

1   10. The method of claim 1 wherein the act of accepting at least a part of a

2   selected one of at least one set of configuration information for a data forwarding

3   device is performed by accessing a storage device of the data forwarding device,

4   wherein the act of accepting at least a part of a set of candidate

5   configuration information for the data forwarding device is performed by

6   accessing a storage device of the data forwarding device; and

7   wherein the act of determining differences, if any, between

8   - the at least the part of the set of candidate configuration

9   information for the data forwarding device, and

10   - the at least the part of the selected one of the at least one set of

11   configuration information for the data forwarding device,

12   is performed by a component of the data forwarding device.

1   11. The method of claim 1 wherein the set of candidate configuration information

2   for the data forwarding device includes a plurality of statements, at least some of

3   which define parameter values,

4   wherein the selected one of the at least one set of configuration

5   information for the data forwarding device includes a plurality of statements, at

6   least some of which define parameter values, and

7   wherein the act of determining differences, if any, between

8   - the at least the part of the set of candidate configuration

9   information for the data forwarding device, and

10   - the at least the part of the selected one of the at least one

11   set of configuration information for the data forwarding

12   device,

13   considers a selected one of (a) statements only, (b) parameter values only, and

14   (c) statements and parameter values.

1   12. A machine readable medium having stored thereon:

2   a) at least a part of a set of candidate configuration information for the

3   data forwarding device; and

4   b) indicators for indicating differences between

5   - the at least a part of the set of candidate configuration information

6   for the data forwarding device, and

7   - at least a part of a selected one of at least one set of

8   configuration information for the data forwarding device.

1   13. In a data forwarding device, a facility for checking at least a part of a set of

2   candidate configuration information, the facility comprising:

3   a) a storage device for storing at least one set of configuration information

4   for the data forwarding device;

5   b) an input facility for

6   i) accepting at least a part of a selected one of the at least one set

7   of configuration information for a data forwarding device, and

8   ii) accepting at least a part of a set of candidate configuration

9   information for the data forwarding device; and

10   c) a configuration comparison facility for determining differences, if any,

11   between

12   - the at least the part of the set of candidate configuration

13   information for the data forwarding device, and

14   - the at least the part of the selected one of the at least one set of

15   configuration information for the data forwarding device.

1   14. A method for determining differences in at least a part of sets of

2   configuration information, comprising:

3   a) accepting at least a part of a first selected one of at least two sets of

4   configuration information for a data forwarding device;

5   b) accepting at least a part of a second selected one of the at least two

6   sets of configuration information for the data forwarding device; and

7   c) determining differences, if any, between

8   - the first selected one of the at least two sets of configuration

9   information for a data forwarding device, and

10   - the second selected one of the at least two sets of configuration

11   information for a data forwarding device.

1   15. The method of claim 14 wherein the first selected one of the at least two sets

2   of configuration information for a data forwarding device includes a plurality of

3   statements,

4   wherein a first statement of the plurality of statements of the first

5   selected one of the at least two sets of configuration information for a data

6   forwarding device contains a second statement of the plurality of statements to

7   define at least a part of a hierarchical configuration,

8   wherein the second selected one of the at least two sets of

9   configuration information for a data forwarding device includes a plurality of

10   statements, and

11   wherein a first statement of the plurality of statements of the second

12   selected one of the at least two sets of configuration information for a data

13   forwarding device contains a second statement of the plurality of statements to

14   define at least a part of a hierarchical configuration.

1   16. The method of claim 15 wherein the at least the part of the first selected one

2   of the at least two sets of configuration information for a data forwarding device

3   only includes a defined first statement and any of the plurality of statements that

4   are descendants of the defined first statement in the hierarchical configuration,

5   and

6   wherein the at least the part of the second selected one of the at

7   least two sets of configuration information for a data forwarding device includes a

8   corresponding first statement and any of the plurality of statements that are

9   descendants of the defined first statement in the hierarchical configuration.

1   17. The method of claim 16 wherein the defined first statement is defined by a

2   user input.

1   18. The method of claim 15 wherein the hierarchical configuration information

2   includes at least two categories at a first hierarchical level, and

3   wherein the at least two categories are selected from a group of

4   data forwarding device configuration categories consisting of:

5   A) chassis configuration information;

6   B) class-of-service configuration information;

7   C) firewall configuration information;

8   D) forwarding-options configuration information;

9   E) groups configuration information;

10   F) interfaces configuration information;

11   G) policy-options configuration information;

12   H) protocols configuration information;

13   I) routing-instances configuration information;

14   J) routing-options configuration information;

15   K) network management protocol configuration information; and

16   L) system configuration information.

1   19. The method of claim 14 wherein the act of accepting at least a part of the

2   first selected one of the at least two sets of configuration information for the data

3   forwarding device is performed by accessing a storage device of the data

4   forwarding device,

5   wherein the act of accepting at least a part of the second selected

6   one of the at least two sets of configuration information for the data forwarding

7   device is performed by accessing a storage device of the data forwarding device,

8   and

9   wherein the act of determining differences, if any, between

10   - the first selected one of the at least two sets of

11   configuration information for the data forwarding device, and

12   - the second selected one of the at least two sets of

13   configuration information for the data forwarding device,

14   is performed by a component of the data forwarding device.

1   20. The method of claim 14 wherein the first selected one of the at least two sets

2   of configuration information for a data forwarding device includes a plurality of

3   statements, at least some of which define parameter values,

4   wherein the second selected one of the at least two sets of

5   configuration information for the data forwarding device includes a plurality of

6   statements, at least some of which define parameter values, and

7   wherein the act of determining differences, if any, between

8   - the first selected one of the at least two sets of

9   configuration information for the data forwarding device, and

10   - the second selected one of the at least two sets of

11   configuration information for the data forwarding device,

12   considers a selected one of (a) statements only, (b) parameter values only, and

13   (c) statements and parameter values.

1   21. A machine readable medium having stored thereon:

2   a) at least two sets of configuration information for a data forwarding

3   device; and

4   b) indicators for indicating differences between

5   - a first selected one of the at least two sets of configuration

6   information for the data forwarding device, and

7   - a second selected one of the at least two sets of configuration

8   information for the data forwarding device.

1   22. In a data forwarding device, a facility for comparing at least a part of sets of

2   configuration information, the facility comprising:

3   a) a storage device for storing at least two sets of configuration

4   information for the data forwarding device;

5   b) an input facility for

6   i) accepting at least a part of a first selected one of the at least two

7   sets of configuration information for the data forwarding device, and

8   ii) accepting at least a part of a second selected one of the at least

9   two sets of configuration information for the data forwarding device;

10   and

11   c) a configuration comparison facility for determining differences, if any,

12   between

13   - the first selected one of the at least two sets of configuration

14   information for the data forwarding device, and

15   - the second selected one of the at least two sets of configuration

16   information for the data forwarding device.

1   23.   A method comprising:

2   receiving with a data forwarding device, a first set of configuration

3   information for the data forwarding device;

4   receiving with the data forwarding device, a second set of configuration

5   information for the data forwarding device;

6   determining with the data forwarding device, differences between the first

7   and second sets of configuration information.

1   24.   The method according to claim 23, wherein the data forwarding device is a

2   router.

1   25.   A data forwarding device comprising:

2   a memory storing a first set of configuration information and a second set

3   of configuration information for the data forwarding device;

4   a processing module for determining differences between the first and

5   second sets of configuration information stored in the memory.

1   26.   A data forwarding device comprising:

2   a plurality of data interfaces for connection to respective data lines;

3   a mechanism for forwarding data from one data interface to another data

4   interface;

5   a user interface for entering configuration information;

6   a memory storing a first set of configuration information and a second set

7   of configuration information;

8   a processing module for determining differences between the first and

9   second sets of configuration information stored in the memory.